



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/927,827	08/10/2001	Stanley G. Bower	38-10(15824)B	6251

7590

04/22/2003

Gail Wuellner
Monsanto Company
800 North Lindbergh Blvd.
St. Louis, MO 63167

EXAMINER

KERR, KATHLEEN M

ART UNIT

PAPER NUMBER

1652

DATE MAILED: 04/22/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/927,827

Applicant(s)

BOWER ET AL.

Examiner

Kathleen M Kerr

Art Unit

1652

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-21 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Application Status

1. Claims 1-21, as originally filed, are pending in the instant application.

Restriction

2. Restriction to one of the following inventions is required under 35 U.S.C. § 121:
 - I. Claims 1-18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a galactomannanase (SEQ ID NOs: 2/3), classified in class 435, subclass 201.
 - II. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding an α -amylase (SEQ ID NOs: 18/44), classified in class 435, subclass 202.
 - III. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding an α -amylase (SEQ ID NOs: 19/45), classified in class 435, subclass 202.
 - IV. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a cellulase (SEQ ID NOs: 20/46), classified in class 435, subclass 209.
 - V. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a protein of unknown function (SEQ ID NOs: 21/47), classified in class 530, subclass 350.
 - VI. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a cellulase (SEQ ID NOs: 22/48), classified in class 435, subclass 209.
 - VII. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding an exoglucanase (SEQ ID NOs: 23/49), classified in class 435, subclass 200.
 - VIII. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a cellulase (SEQ ID NOs: 24/50), classified in class 435, subclass 209.
 - IX. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a cellulase (SEQ ID NOs: 25/51), classified in class 435, subclass 209.
 - X. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a cellulase (SEQ ID NOs: 26/52), classified in class 435, subclass 209.

Art Unit: 1652

- XI. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a metalloprotease (SEQ ID NOs: 27/53), classified in class 435, subclass 212.
- XII. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a protease HTPX (SEQ ID NOs: 28/54), classified in class 435, subclass 212.
- XIII. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a protease (SEQ ID NOs: 29/55), classified in class 435, subclass 212.
- XIV. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a protease (SEQ ID NOs: 30/56), classified in class 435, subclass 212.
- XV. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a serine protease (SEQ ID NOs: 31/57), classified in class 435, subclass 212.
- XVI. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a protein of unknown function (SEQ ID NOs: 32/58), classified in class 530, subclass 350.
- XVII. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a subtilisin (SEQ ID NOs: 33/59), classified in class 435, subclass 212.
- XVIII. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a protease (SEQ ID NOs: 34/60), classified in class 435, subclass 212.
- XIX. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a protease (SEQ ID NOs: 35/61), classified in class 435, subclass 212.
- XX. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a clp protease (SEQ ID NOs: 36/62), classified in class 435, subclass 212.
- XXI. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a clp protease (SEQ ID NOs: 37/63), classified in class 435, subclass 212.
- XXII. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a protein of unknown function (SEQ ID NOs: 38/64), classified in class 530, subclass 350.
- XXIII. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a ClpA protein (SEQ ID NOs: 39/65), classified in class 530, subclass 350.
- XXIV. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a ClpA protein (SEQ ID NOs: 40/66), classified in class 530, subclass 350.

Art Unit: 1652

- XXV. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a protease (SEQ ID NOs: 41/67), classified in class 435, subclass 212.
- XXVI. Claims 1-5, 7-16, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a proteinase (SEQ ID NOs: 42/68), classified in class 435, subclass 220.
- XXVII. Claims 1-5, 7-14, and 18, drawn to transformed cells, DNA constructs, and methods of making a transformed cell encoding a glucose dehydrogenase (SEQ ID NOs: 43/69), classified in class 435, subclass 189.
- XXVIII. Claims 19-20, drawn to methods of producing xanthan gum, classified in class 435, subclass 104.
- XXIX. Claim 21, drawn to xanthan gum, classified in class 514, subclass 54.

3. The inventions are distinct, each from the other because of the following reasons:

Groups I-XXVII are drawn to transformed cell or organisms having reduced activity of a particular protein, encoded by a particular DNA. The structure of the protein and/or DNA that is altered defines the invention. Groups I-XXVII are related to each other by virtue of their altered DNAs and/or proteins being sequences from *X. campestris*. However, these cells are distinct from each other by virtue of their distinct structures. Furthermore, the nucleic acids altered in the cells encode enzymes having distinct structural properties with varying amino acid sequence, and thus varying nucleic acid sequence, lacking any noted consensus among the Groups. Thus, Groups I-XXVII are patentably distinct, each from the other. While many of these Groups are all identically classified, to search any more than one of the defined Groups would present a search burden on the Examiner based on the extensive searching and evaluation required for any one sequence in the sequence databases as well as patent and non-patent literature text-based databases.

Art Unit: 1652

Group I is related to Group XXVIII as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (M.P.E.P. § 806.05(h)). In the instant case, the transformed host cell having an alteration in a *manA* gene can be used for a materially different process of using that product, such as in a screen for novel *manA* genes. Thus, Groups I and XXVIII are patentably distinct. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Groups II-XXVII are unrelated to Group XXVIII. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (M.P.E.P. § 806.04, M.P.E.P. § 808.01). In the instant case, the different products of Groups II-XXVII are not used in the methods of Group XXVIII, which are specific to the *manA* gene altered in Group I. Thus, the structures of Groups II-XXVII are distinct from the structure of that used in Group XXVIII for the reasons noted above. Thus, Groups II-XXVII are patentably distinct from Group XXVIII. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Groups XXVIII and XXIX are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as

Art Unit: 1652

claimed can be made by another and materially different process (M.P.E.P. § 806.05(f)). In the instant case, the xanthan gum product can be produced by different methods, such as organic synthesis. Thus, Groups XXVIII and XXIX are patentably distinct. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Notice of Possible Rejoinder

4. The Examiner notes that if claims in Group I are found directed to an allowable product, then claims in Group XXVIII, which are directed to processes of using the patentable product, previously withdrawn from consideration as a result of a restriction requirement, would now be rejoined pursuant to the procedures set forth in the Official Gazette notice dated March 26, 1996 (1184 O.G. 86; see also M.P.E.P. § 821.04, *In re Ochiai*, and *In re Brouwer*). Since process claims would be rejoined and fully examined for patentability under 37 C.F.R. § 1.104, Applicants are instructed to amend said claims as deemed necessary according to rejections made against the elected claims.

The Examiner also notes that the product of Claim 21 may be made by the process of Claims 19-20; however, without specific, dependent claims, Claims 19-20 would not be granted rejoinder as a process of making the product of Claim 21, even with the allowance of Claim 21.

Examiner's Notes

5. Upon a cursory reading of Claim 1 for purposes of restriction ONLY, the Examiner notes that item (b) contains no reference to a "wild-type gene"; items a and c-e all contain this reference. Without this reference, item (b) cannot be linked to the structure defined below in the

Art Unit: 1652

“wherein” clause (relating to particular SEQ ID NOs with at least 65% similarity). Thus, no real structure is found in item (b).

The Examiner also notes that the Summary has inconsistencies with the SEQ ID numbering that is mentioned. On page 4 of the specification, proteins 3 and 44-69 are noted; the corresponding DNAs in Table 2 are DNAs 2 and 18-43. On page 5, proteins 3 and 44-68 are noted along with DNAs 2 and 18-42. Thus, Group XXVII above excludes Claims 15-16 since SEQ ID NO:43 is not included. If Claim 15 were amended to read DNAs 2 and 18-43, Claims 15 and 16 would be included in Group XXVII.

Election

6. A telephone call was made to Connie Caron on April 21, 2003 to request an oral election to the above restriction requirement, but did not result in an election being made.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 C.F.R. § 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 C.F.R. § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 C.F.R. § 1.48(b) and by the fee required under 37 C.F.R. § 1.17(i).

Conclusion

7. A complete response to the instant Office action must include an election of invention.

Art Unit: 1652

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen M Kerr whose telephone number is (703) 305-1229.

The examiner can normally be reached on Monday through Friday, from 8:30am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathupura Achutamurthy can be reached on (703) 308-3804. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

KMK
April 21, 2003

